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**antheridiol.**  $C_{29}H_{42}O_5$ .

Properties: Colorless, fine crystals; mp 250C; slightly soluble in water, soluble in warm methanol.

Use: A plant hormone having a specific sex function, it is secreted by certain water molds. It has been used to modify plant fertility. Said to be the first plant sex hormone to be discovered (1942).

**anthocyanin.** A flavonoid plant pigment which accounts for most of the red, pink, and blue colors in plants, fruits, and flowers. Water-soluble.

See also flavonoid.

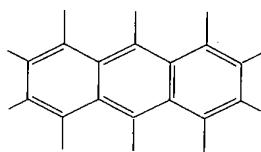
**"Anthomine."**<sup>300</sup> TM for a dyeing assistant primarily for use in wool dyeing.

**anthopyllite.**  $(Mg,Fe)_7Si_8O_{22}(OH)_2$ . A natural magnesium-iron silicate.

See asbestos.

**anthracene.** CAS: 120-12-7.  
 $C_8H_4(CH_2)_2C_6H_4$ .

Properties: Yellow crystals with blue fluorescence. Soluble in alcohol and ether, insoluble in water, d 1.25 (27/4C), mp 217C, bp 340C, fp 250F (121C) (CC). Combustible. It has semiconducting properties.



Derivation: (a) By salting out from crude anthracene oil and draining. The crude salts are purified by pressing and finally by the use of various solvents. Phenanthrene and carbazole are removed; (b) by distilling crude anthracene oil with alkali carbonate in iron retorts, the distillate containing only anthracene and phenanthrene. The latter is removed by carbon disulfide.

Method of purification: By sublimation with superheated steam or by crystallization from benzene followed by sublimation; for very pure crystals, zone melting of solid anthracene. Impurities: Phenanthrene, carbazole, and chrysene.

Grade: Commercial (90-95%), pure crystals.

Hazard: A carcinogen.

Use: Dyes, alizarin, phenanthrene, carbazole, anthraquinone, calico printing, a component of smoke screens, scintillation counting crystals, organic semi-conductor research.

**anthracene oil.** A coal-tar fraction boiling in the range 270-360C, a source of anthracene and sim-

ilar aromatics. Also used as a wood preservative and pesticide, except on food crops.

Hazard: A carcinogen.

**1,8,9-anthracenetriol.** See anthralin.

**anthracite.** See coal.

**anthragallic acid.** See anthragallol.

**anthragallol.** (1,2,3-trihydroxyanthraquinone; anthragallic acid).  $C_6H_4(CO)_2C_6H(OH)_3$ . Tricyclic.

Properties: Brown powder. Soluble in alcohol, ether, glacial acetic acid, slightly soluble in water and chloroform. Sublimes at 290C.

Derivation: Product of the reaction of benzoic, gallic, and sulfuric acids.

Use: Dyeing.

**"Anthragen."**<sup>203</sup> TM for a series of lake colors. Used for printing inks, wallpaper, coated paper, paint, rubber, and organic plastics.

**"Anthralan."**<sup>203</sup> TM for a series of acid dye-stuffs. Used on wool.

**anthralin.** (1,8,9-anthracenetriol; 1,8-dihydroxyanthranol).  $C_{14}H_{10}O_3$ .

Properties: Odorless, tasteless, yellow powder. Mp 176-181C. Filtrate from water suspension is neutral to litmus. Soluble in chloroform, acetone, benzene, and in solutions of alkali hydroxide; slightly soluble in alcohol, ether, and glacial acetic acid; insoluble in water. Combustible.

Derivation: By catalytic reduction of 1,8-dihydroxyanthraquinone with hydrogen at high pressure.

Grade: NF, (95%).

Hazard: Very irritating. Do not use on scalp or near eyes.

Use: Medicine (treatment of psoriasis).

**anthranilic acid.** (o-aminobenzoic acid). CAS: 118-92-3.  $C_6H_4(NH_2)(CO_2H)$ .

Properties: Yellowish crystals; sweetish taste; soluble in hot water, alcohol, and ether. Mp 144-146C, sublimes. Combustible.

Derivation: Phthalimide plus an alkaline hypobromite solution.

Grade: Technical (95-98%), 99% or better.

Use: Dyes, drugs, perfumes, and pharmaceuticals.

**anthranol.** (9-hydroxyanthracene).  $C_{14}H_9OH$ .

Properties: Crystals, mp 120C, soluble in organic solvents with a blue fluorescence. Changes in solution to anthrone. Combustible.

Use: Dyes.